ACUTE PUERPERAL INVERSION OF THE UTERUS

REPORT OF A CASE

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ACUTE puerperal inversion of the uterus is a rare event and the frequency is controversial. Reports range from no cases in 250,000 to one in 3,000 deliveries.

Two reasons for reporting this case are well described by Cosgrove (1939). He says: "First, it has been well said that no man has seen enough of these cases to know very much, of his own knowledge, about them. Hence, a few more cases detailed and analysed, with suitable expression of tendencies towards conclusions derivable therefrom, may still have value. Second all truth, no matter how thoroughly known to the leaders of medical thought, must be reiterated again and again before it becomes so thoroughly impressed on the rank and file of practitioners as to be available for the benefit of all patients."

CASE REPORT.

The patient was a primipara aged 25 years and married eighteen months. The ante-natal period was uneventful and labour commenced spontaneously at term. On admission to hospital her general condition was good and labour progressed normally under routine sedation of seconal and pethidine. She was ten hours in the first stage of labour and after, approximately, one hour in the second stage the head was on the perineum. A low forcep delivery was performed under cyclopropane anæsthesia delivering her of a living male child weighing 7 lb. 14 oz. (3566 G.). An episiotomy was necessary. The placenta separated and was expressed normally ten minutes after delivery. The estimated blood loss was recorded as being 20 fl. oz. (570 ml.). At this stage her condition was quite satisfactory and her blood pressure and pulse rate were normal. However, within half an hour her pulse rate started to rise and her blood pressure to fall. She was not bleeding excessively but complained of abdominal pain. It was obvious that a state of shock was developing so the foot of the bed was raised, morphia was given by injection and blood transfusion commenced. One pint was given fairly quickly but her condition was no better. After two more pints of blood it was clear that something was radically amiss and inversion of the uterus was considered with rupture of the uterus, hæmorrhage and the like. At this time, about two hours since delivery, what felt like a firmly contracted fundus uteri was palpable in the abdomen in the position where a normal puerperal fundus ought to be. Also there was serious vaginal blood loss. A vaginal examination was now made and the condition of inversion easily diagnosed by feeling the inverted fundus

filling the uterine cavity and presenting at the cervix. As the condition of the patient was now so critical, and the invaginated fundus of the uterus seemed so tightly grasped in this position, it was felt that attempts to replace it vaginally would only aggravate the acute shock and produce a condition so severe that it became irreversible. Therefore the decision to perform a laparotomy and attempt abdominal replacement was made. It is interesting to record that, even at this stage, the apparent fundus level was just slightly below the umbilicus though a distinct dimple or depression could now be felt. Vaginal bleeding was still not a dramatic sign.

On opening the abdomen through a midline subumbilical incision a pallid uterus was seen with the tubes, ovaries and round ligaments drawn tightly up to the crater of the inversion funnel. Grasping the uterine mass with two hands over the apparent 'fundus' and with the thumbs over the foremost portion of the inversion kneading manipulations gradually corrected the invaginated uterus. When this was completed it was interesting to note the dramatic improvement in the patient's condition and the change in colour of the uterus. Her improvement continued and the abdomen was closed. Blood transfusion was continued throughout and after the operation and in all she was given six pints (3,420 ml.). Intravenous and intramuscular cortisone were also administered. The anæsthesia given for the operation by Dr. A. A. Miller, M.B.E., M.B., F.F.A.R.C.S., was as follows:—Inhalation of pure oxygen for several minutes followed by intravenous injection of 100 mg. thiopentone (4 ml. of 2.5 per cent. solution) and 40 mgm. of scoline. She was intubated with a cuffed tube after inflation with oxygen and the anæsthetic was maintained with 1 per cent. fluothane in oxygen, as delivered by the fluothane vaporiser, and using carbon dioxide absorption. Controlled respiration was used until after the inversion was corrected and then the patient was allowed to breathe normally.

Antibiotic therapy was instituted after operation and her convalescence was uneventful. She was discharged from hospital on the ninth day of the puerperium.

Comment.

Inversion of the uterus is a serious postpartum complication with a high death rate. Although mismanagement of the third stage can be an important causal factor, Easterday and Reid (1959) state that at least 40 per cent. of cases occur where the placental stage has been perfectly normal. Henderson and Alles (1948), in a review of twenty-four cases, noted a high incidence of the condition in primiparas and suggested that in certain patients there is a predisposition to inversion. However, some abnormality in uterine muscle tone must develop to permit the invagination to begin. A depression starts, the rim around it contracts and forces the introcedent wall downwards and more deeply into the uterine cavity. The rest of the uterus seizes this invaginated portion and, in attempting to expel it, turns itself inside out. The pain and shock are due to the ovaries being crushed together or dragged forcibly against the brim of the depression with marked tension on the tubo-ovarian ligaments. This acute shock is a fortuitous occurrence and hæmorrhage is another important sign. Nevertheless they may

occur separately and in the present case hæmorrhage was never the predominant sign.

De Lee and Greenhill (1947) state, with reference to the diagnosis of acute inversion: "If the physician bears this accident in mind, there need be no difficulty in making the diagnosis on direct examination. A large, round tumour in the vagina, with absence of the corpus from its proper place in the presence of shock and hæmorrhage, will clear up the situation at once." This is no doubt true but it is a late diagnosis. In the case reported the uterine fundus seemed palpable in a normal position even when the patient's condition was extremely grave. Henderson and Alles (1948) stress this point and say: "The findings on abdominal examination are unreliable because the inverted fundus is in the normal position in the pelvis, and if the examination is careless or if the abdominal wall is thick, the characteristic dimpling of the uterine tumour is not noted."

It is therefore suggested that early vaginal examination is of the utmost importance in all cases of postpartum hæmorrhage, with or without shock. Early diagnosis should make it possible for the inversion to be corrected by vaginal manipulations. When recognition is delayed attempts at vaginal replacement often fail and the combination of surgical trauma, blood loss and shock will produce a condition so severe that it becomes irreversible despite adequate resuscitative measures. It is not an obstetric triumph to successfully correct the inversion by vaginal manipulations at the expense of the patient's life. Therefore in cases like the one described preference must be for abdominal reposition because of the readiness by which the uterus can be replaced with almost instantaneous disappearance of the shock. This view is supported by Findley (1929).

Summary.

A case of acute puerperal inversion in a primipara, successfully corrected by abdominal operation, is described. Problems in diagnosis are briefly discussed and it is reiterated that all cases of abnormal postpartum shock and hæmorrhage should be immediately examined vaginally to exclude acute inversion.

References.

Cosgrove, S. A. (1939). *Amer. J. Obst. Gynec.*, **38**, 912.

De Lee, J. B., and Greenhill, J. P. (1947). *Principles and Practice of Obstetrics.* Saunders, p. 730.

Easterday, C. L., and Reid, D. E. (1959). *Amer. J. Obst. Gynec.*, **78**, 1225.

Findley, P. (1929). *Amer. J. Obst. Gynec.*, **18**, 591.

Henderson, H., and Russell, W. A. (1948). *Amer. J. Obst. Gynec.*, **56**, 135.